

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application.

Listing of Claims:

1. (Original) A method for cultivation of hair inductive cells, comprising the step of culturing the hair inductive cells in a culture medium comprising a medium conditioned by conditioning cells, in which the conditioning cells are derived from non-epidermal tissue.
2. (Original) The method of claim 1, in which the tissue is non-ectodermal.
3. (Currently Amended) The method of either claim 1 or claim 2, in which the tissue is of mesodermal origin.
4. (Original) The method of claim 3, in which the conditioning cells are prostate epithelial cells.
5. (Original) The method of claim 3, in which the conditioning cells are human dermal fibroblasts.
6. (Currently Amended) The method of either claim 1 or claim 2, in which the tissue is of endodermal origin.

7. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the hair inductive potential of the hair inductive cells is maintained.

8. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the culture medium consists essentially of the conditioned medium.

9. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the culture medium comprises conditioning cells derived from the non-epidermal tissue.

10. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the hair inductive cells are dermal papilla (DP) cells and/or dermal sheath (DS) cells.

11. (Currently Amended) The method of claim 1 ~~according any preceding claim~~, in which the conditioned medium is obtained using a cell line (~~for example, an established cell line~~).

12. (Currently Amended) The method of according to claim 11, in which the cell line is derived from a donor that has been screened and tested for risk factors associated with transplantation.

13. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the culture medium is free of recombinant genes and/or recombinant products thereof.

14. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the culture medium is free of viral vectors.

15. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the conditioned medium is frozen prior to use.

16. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the conditioned medium has a serum-free component with a total protein content above 10 µg/ml, ~~for example above 100 µg/ml or above 1 mg/ml~~.

17. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the conditioned medium is concentrated (~~for example, by ultrafiltration~~) prior to use.

18. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, further comprising the step of subculturing the hair inductive cells in the culture medium for three or more passages, ~~for example seven or more passages~~.

19. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, further comprising the step of harvesting or isolating cultured or subcultured hair inductive cells.

20. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which

the hair inductive cells are allogeneic to the non-epidermal tissue.

21. (Currently Amended) The method of claim 1 ~~any of the preceding claims~~, in which the hair inductive cells are autologous to the non-epidermal tissue.

22-28 (Cancelled)

29. (New) The method of claim 11, wherein said cell line is an established cell line.

30. (New) The method of claim 16, wherein said serum-free component has a total protein content above 100 µg/ml.

31. (New) The method of claim 16, wherein said serum-free component has a total protein content above 1 mg/ml.

32. (New) The method of claim 17, wherein said conditioned medium is concentrated by ultrafiltration prior to use.

33. (New) The method of claim 18, wherein said hair inductive cells are subcultured for seven or more passages.

34. (New) A method of long term cultivation of dermal papilla (DP) cells or dermal

sheath (DS) cells of a mammalian species, the method comprising the steps of culturing and subculturing the DP or DS cells in a cell culture medium which consists essentially of, or is supplemented with, a medium conditioned by one or more mammalian cells derived from a non-epidermal tissue, thereby proliferating the DP or DS cells while preserving their hair inductive potential.

35. (New) The method of claim 34, wherein said non-epidermal tissue is non-ectodermal tissue.

36. (New) The method of claim 35, wherein said non-ectodermal tissue is mesodermal tissue or endodermal tissue.

37. (New) A method of providing and maintaining dermal papilla (DP) or dermal sheath (DS) cells for transplantation, the method comprising the steps of obtaining a DP or DS cell from a subject and culturing the DP or DS cell in a culture medium comprising a medium conditioned by conditioning cells, in which the conditioning cells are derived from non-epidermal tissue.

38. (New) Cultured hair inductive cells obtained from a subject and cultured in a culture medium comprising a medium conditioned by conditioning cells, in which the conditioning cells are derived from non-epidermal tissue.

39. (New) The cultured hair inductive cells of claim 38, wherein said cells are dermal

papilla (DP) cells or dermal sheath (DS) cells.

40. (New) A method of treating male pattern baldness comprising administering cultured hair inductive cells to a subject in need thereof.

41. (New) The method of claim 40, wherein said cultured hair inductive cells are dermal papilla (DP) cells or dermal sheath (DS) cells.

42. (New) The method of claim 40, wherein said treating comprises cosmetic treatment.

43. (New) A method of producing skin equivalents comprising culturing hair inductive cells *in vitro*.

44. (New) The method of claim 43, wherein said hair inductive cells are dermal papilla (DP) cells or dermal sheath (DS) cells.

45. (New) A composition comprising hair inductive cells and a culture medium comprising a medium conditioned by conditioning cells derived from non-epidermal tissue.

46. (New) The composition of claim 46, wherein said non-epidermal tissue is non-ectodermal tissue.

47. (New) The composition of claim 46, wherein said non-epidermal tissue is mesodermal tissue or endodermal tissue.

48. (New) A culture medium for cultivation of hair inductive cells, in which the culture medium comprises a medium conditioned by non-epidermal cells and is capable of maintaining hair inductive potential of the hair inductive cells.

49. (New) The culture medium of claim 49, wherein said non-epidermal cells are mesoderm-derived cells.

50. (New) The culture medium of claim 50, wherein said mesoderm-derived cells are prostate epithelial cells or endoderm-derived cells.